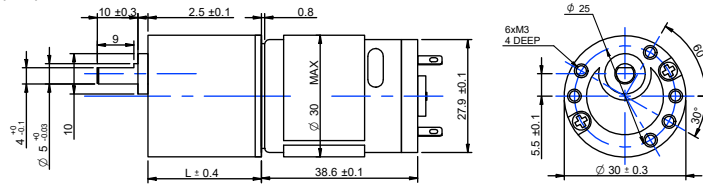


DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

SD3039	-	VOLTAGE	-	GEAR RATIO	-	F	EC
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Example: SD3039-12-20-FEC

F = EMC Filter
EC = Encoder with cover

ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

Gear ratio	20:1	30:1	36:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	400:1	500:1	600:1	810:1	900:1	1000:1
Nominal torque ^ gearbox limit	mNm 98^	150^	150^	200^	200^	290^	290^	290^	390^	390^	440^	440^	440^	440^	440^	440^	440^	440^	440^	440^
Nominal speed	rpm 260	170	150	110	91	73	62	56	46	38	32	29	24	20	15	12	10	7.7	6.9	6.3
Peak torque	mNm 290	440	440	590	590	880	880	880	1180	1180	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Nominal power	W 2.7	2.7	2.4	2.3	1.9	2.2	1.9	1.7	1.9	1.6	1.5	1.3	1.1	0.92	0.69	0.55	0.46	0.35	0.32	0.29
Gearbox efficiency	% 66	66	66	66	66	66	66	66	53	53	53	53	53	53	53	53	53	53	53	53
Gearbox length L	mm 23	23	23	23	23	23	23	23	28	28	28	28	28	28	28	28	28	28	28	28
Weight	g 160	160	160	160	160	160	160	160	170	170	170	170	170	170	170	170	170	170	170	170

OTHER GEAR MOTOR DATA

Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 ISO 14001 TS 16949	
CE label UL label		No No	●

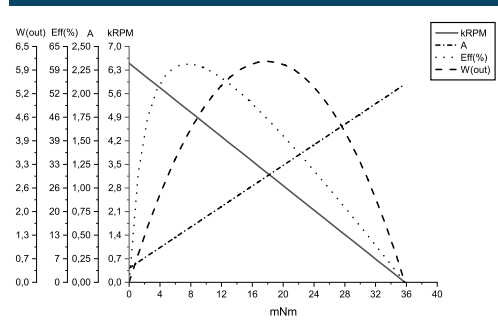
GEARBOX DATA

Backlash no load	°	≤ 2	
Radial load ¹	N	7.9	
Shaft axial load	N	5.9	
Shaft press fit force max.	N	≤ 98	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage ²		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	4	

BRUSHED DC MOTOR DATA

Nominal voltage	V	12
No load speed	rpm	6500
No load current	mA	≤ 150
Nominal speed	rpm	5300
Nominal torque	mNm	7.7
Nominal current	mA	≤ 530
Nominal power	W	4.2
Stall torque	mNm	36
Starting current	A	2.1
Motor commutation		Carb.b. ³
Motor rotor		Iron
Motor stator		Ferr.m. ⁴
Varistor EMC	V	13 - 18
Capacitor EMC	V	50
Resistance	Ω	5.7
Inductance	mH	3.4
Insulation class		B

BRUSHED DC MOTOR DATA GRAPH



NOTES

- 10 mm from gear flange.
- Contact us for information regarding gear stage material of a specific gear ratio.
- Carbon brush.
- Ferrite magnet.

MAGNETIC ENCODER DATA

Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		ABS plastic	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 UL1007	●
Harness length	mm	100	●
Connection		1. BLK M- 2. RED M+ 3. BRN Vcc 4. GRN GND 5. BLU A 6. VIO B	●
Supply voltage	V	Min. 5 Max. 20	
Supply current	mA	Ref. 5 Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

OPTICAL SENSOR DATA

Pulses per revolution		(100 200 256 360 400 500) x 2	
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		Zinc alloy	
Sensor technical data		-	
Size	mm	Width 30 Height 40 Length 23.5	
Harness connector		JST SMR-05V	●
Harness cable		AWG24 UL2464	●
Harness length	mm	195	●
Connection		1. BLK A 2. RED Vcc 3. WHT B 4. EMPTY 5. GRN GND	●
Supply voltage	V	5 ± 10%	
Supply current	mA	-	
Open collector output		-	
Output current per channel	mA	± 20	